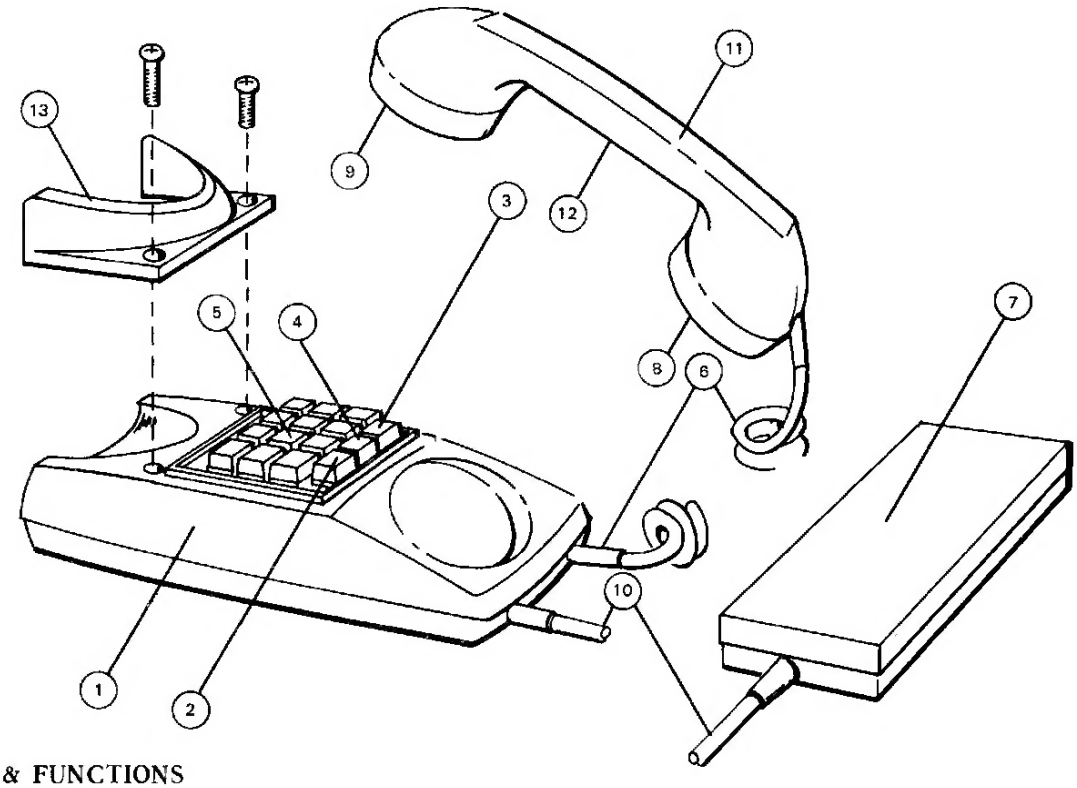
TELEPHONE TYPE INTERCOM

MULTI-CHANNEL SEMI PRIVATE SYSTEM

MODELS **TA–12H TYPE A** *(twelve-way)*
TA–24H TYPE A *(twenty-four way)*

– INSTRUCTIONS –



NAMES & FUNCTIONS

1. Body
2. Call button switch (C)
3. Change over button (A) (only in TA–24H)
4. Paging button (P)
5. Station selector buttons
6. Coil cord
7. Terminal box (Junction box)
8. Microphone
9. Receiver
10. Terminal cord
11. Handset
12. Directory
13. Receiver cradle for wall mounting, included

SPECIFICATIONS: USE PARALLEL CONDUCTORS, NOT TWISTED PAIRS.

* Wiring:	Up to 30 conductors may be required. Please refer to wiring diagram showing system that meets your requirements.
* Power source:	DC 12 volt. Use PS–12S (PS–12C in North America) AC adaptor.
* Current consumption:	65 MA maximum at calling; 25 MA at talking.
* Calling:	Push-button station selection. An electronic tone sounds when, after the selected station button is depressed, the call button (C) is depressed.
* Paging:	Use PG-U paging adaptor in conjunction with standard paging amplifier and speakers

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FEATURES

* As many as 12 simultaneous conversations are possible with a 24 station system.
* Conference calls can selectively include up to all stations in the system.
* Designed for either desk use or wall mounting.
* Any station can page through connected conventional paging or background music system using adaptor PG-U.
* Block paging and talkback paging is available when using adaptor PA–B.
* TA–12H and TA–24H phones can be intermixed to provide a communication system to meet your requirements.

INSTALLATION

Do not attempt to install your intercom system until you have read and thoroughly understood the installation procedure. Aiphone's warranty is void if system is installed in a manner other than described in this manual.

Lay out your system in advance. Determine the exact location of each station. We recommend a full complement of wire be installed, even though you may not initially be installing the maximum number of stations available to your system. This way, should you decide to add a station later, you can avoid running additional cables to existing stations. Do not connect wires to terminal P3 unless appropriate equipment is used. Phone system will not operate if this wire is connected in parallel through system.

WIRING REQUIRED: USE PARALLEL CONDUCTORS, NOT TWISTED PAIRS.

TA–12H - 18 Conductors maximum TA–24H - 30 Conductors maximum

Refer to the chart below and select the proper wire gauge to meet your requirements.

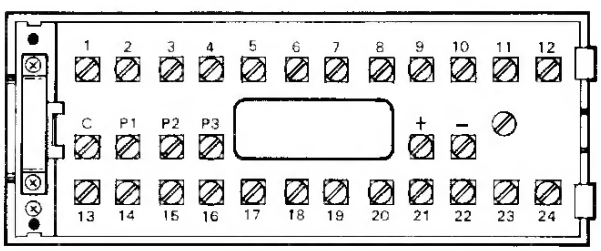
AWG WIRE SIZE	24 AWG	22 AWG	20 AWG	18 AWG
DISTANCE	1300'	2300'	3300'	5000'
DIAMETER OF WIRE	0.5 mm	0.65 mm	0.8 mm	1.0 mm
DISTANCE	390 m	700 m	1000 m	1600 m

Begin your installation with station #1. A space is provided at the left of the diagram to write in your color code. Note the position of the C terminal at each station. Be sure you wire each station correctly.

After installing your second station we recommend that the power supply be connected to the + and – terminal lines at a convenient location and that a test be made for calling and talking between each station. As each additional station is installed re-test between each station. Unplug power supply while making wiring connections.

To obtain the most efficiency from your power supply it is necessary to install the unit as near as possible to the center of your communications network.

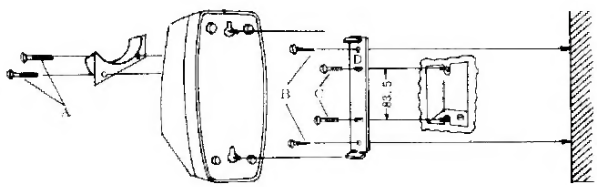
ACTUAL TA–24H TYPE A TERMINAL LOCATIONS



(1) – (24) : for connecting relative stations
(+) – (–) : for power supply
(C) : for receiving calls and talking
(P1) – (P2) : for paging
(P3) : for local speaker cutout

INSTALLATION FOR WALL MOUNTING

1) Attach the mounting bracker to wall or single gang plaster ring.
2) Attach handser cradle included as shown in illustration.



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EQUIPMENT AVAILABLE FOR USE WITH YOUR TA–H PHONE INTERCOM SYSTEM

TA–12H: Type A. 12 call master station. Up to 13 masters may be connected.

TA–24H: Type A. 24 call master station. Up to 25 masters may be connected.

PS–12C: CSA & UL LISTED power supply (available only in North America).

PS–12S: Power supply for system. Standard everywhere except in North America.

PA–B: Talkback paging and/or block paging adaptor. Use with PG–U and paging amp.

RY—AC TYPE A : Relay for operating external device such as additional calling buzzer or bell, door release, etc.

RY-P: Relay for local speaker cut out. Local speaker cut out eliminates the chance of feed back if a paging speaker is located near station initiating paging call.

SP–3: Paging speaker. Complete and ready to install including round flush mounting frame. Transformer installed for 70V line operation.
(Not available in North America)

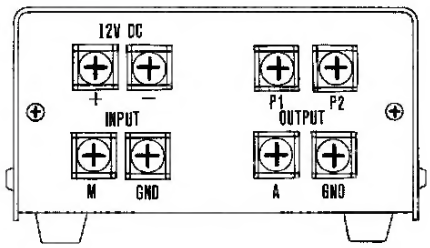
N–S: Square frame for SP–3 speaker.

N–E: Round surface frame for SP–3 speaker.

PG—U TYPE A ; Paging adaptor for connecting any amplifier and background music source to your TA–H system. Features separate volume, treble & bass controls for paging and background music. Includes automatic background music cutout.

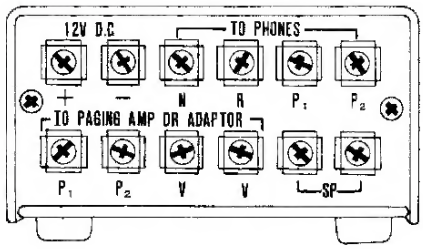
NCH-1 ;Noise cancelling handset especially designed to allow Aiphone TA-H phone system to operate in extremely noisy areas. Field installed only.

ACTUAL PG-U TYPE A TERMINAL LOCATIONS



⊕ · ⊖ : DC power connections
Ⓟ₁ · Ⓟ₂ : for paging(connect to phones)
Ⓜ · GND : for background music source
Ⓐ · GND : for paging amplifier

ACTUAL PA-B TERMINAL LOCATIONS



⊕ · ⊖ : DC power connections
Ⓝ : Block selection terminal
Ⓡ : All call terminal
Ⓟ₁ · Ⓟ₂ : TO PHONES for paging input
Ⓟ₁ · Ⓟ₂ : TO ADAPTOR for paging output
Ⓥ · Ⓥ : 70V line input terminal
Ⓢ : to paging speakers.

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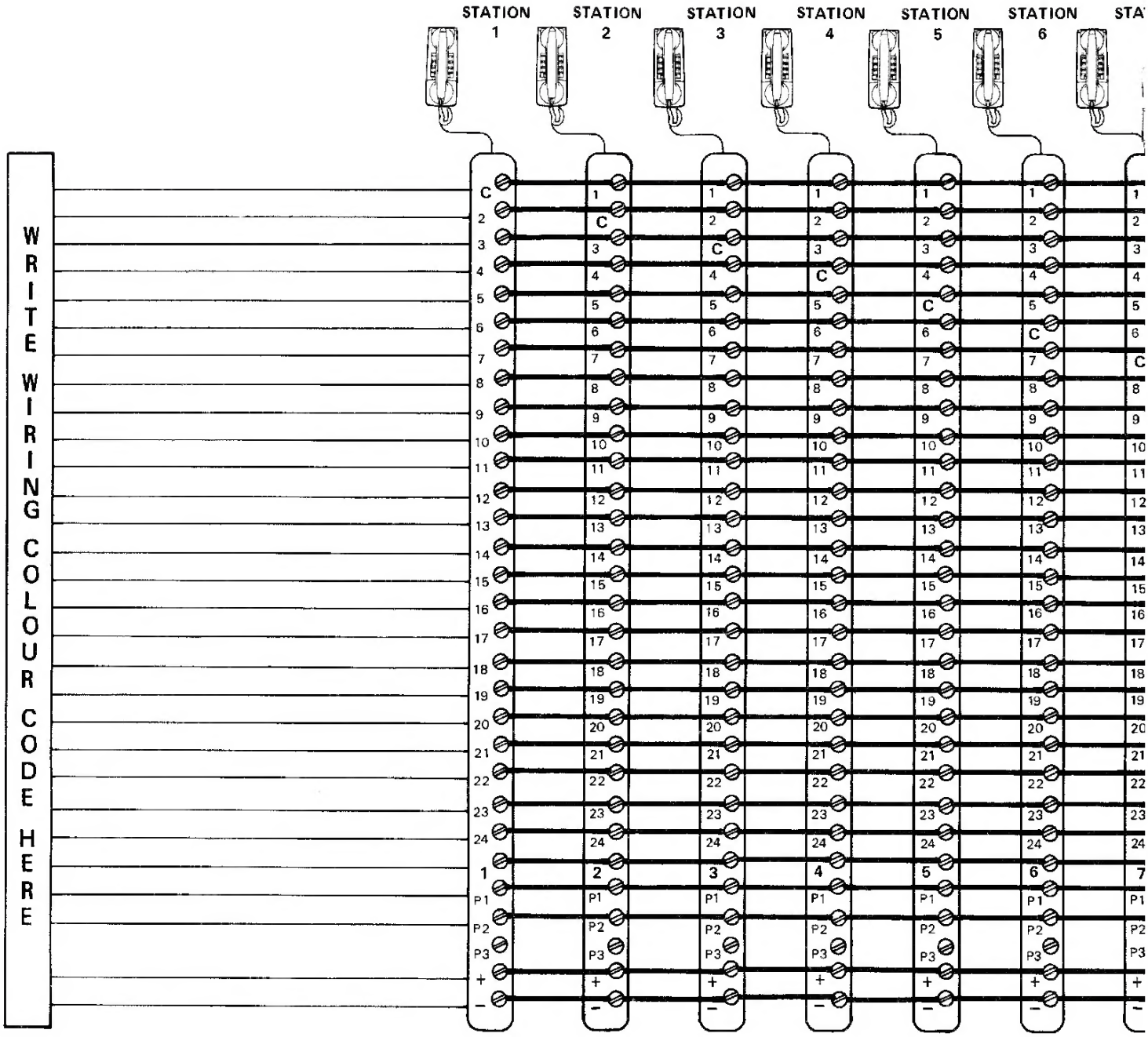
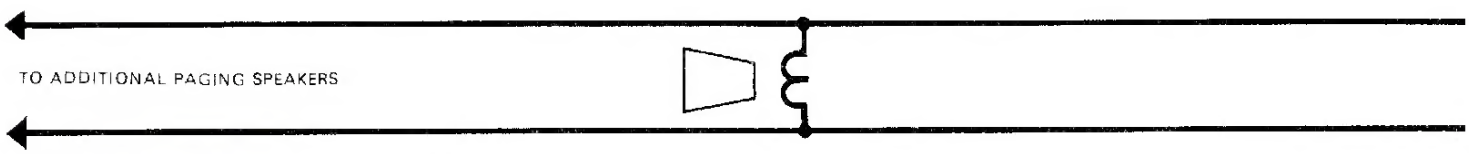
TA-H TYPE A ALL MA

TA–H ALL MASTER SYSTEM MAY BE





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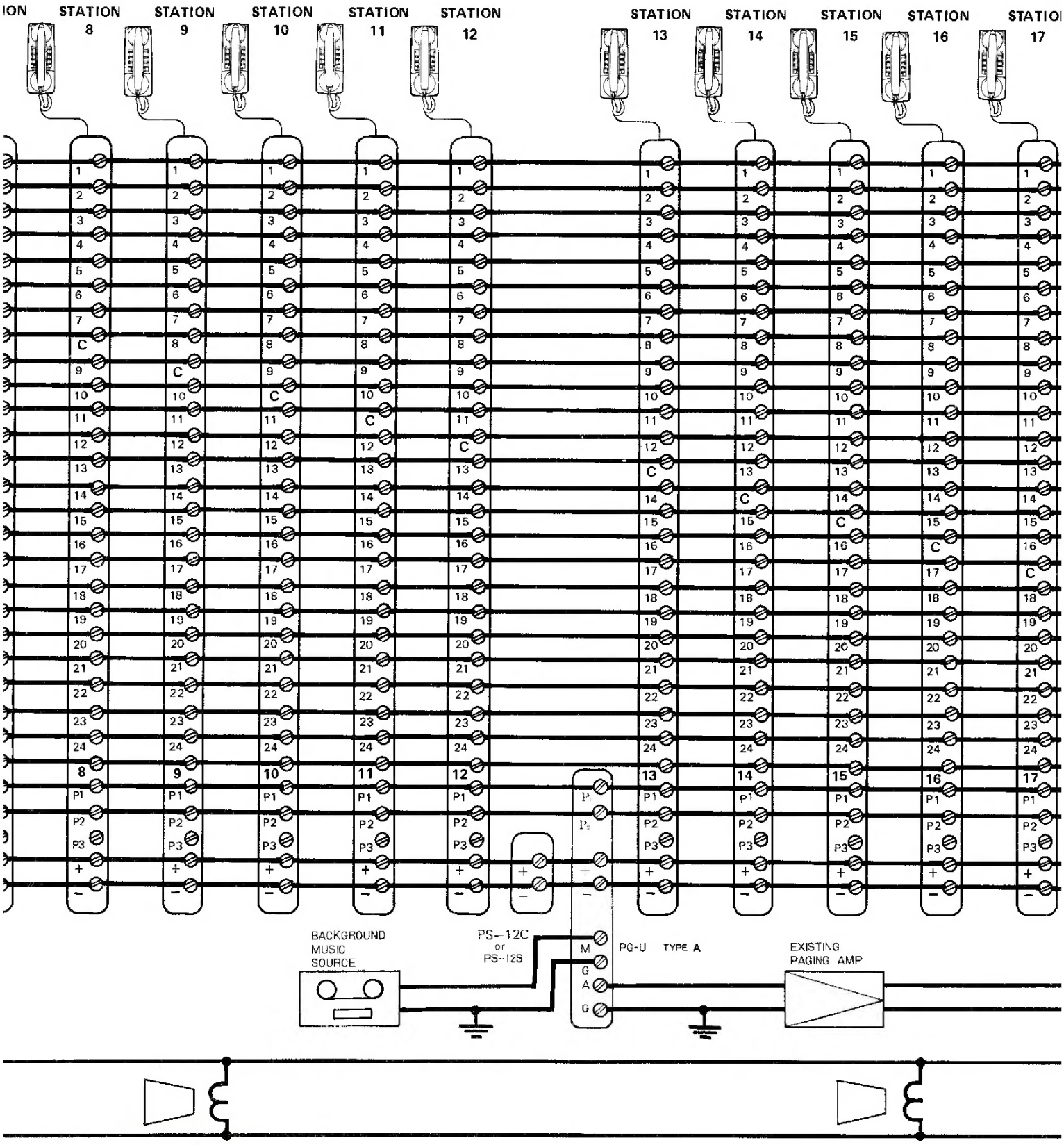
ıSTER SYSTEMS with PAGING USING AIPHONE PG-U PAGING ADAP

CONNECTED TO EXISTING PAGING OR BACKGROUND MUSIC SYSTEMS BY USING PS–12C POWER SUPPLY AND PAGI



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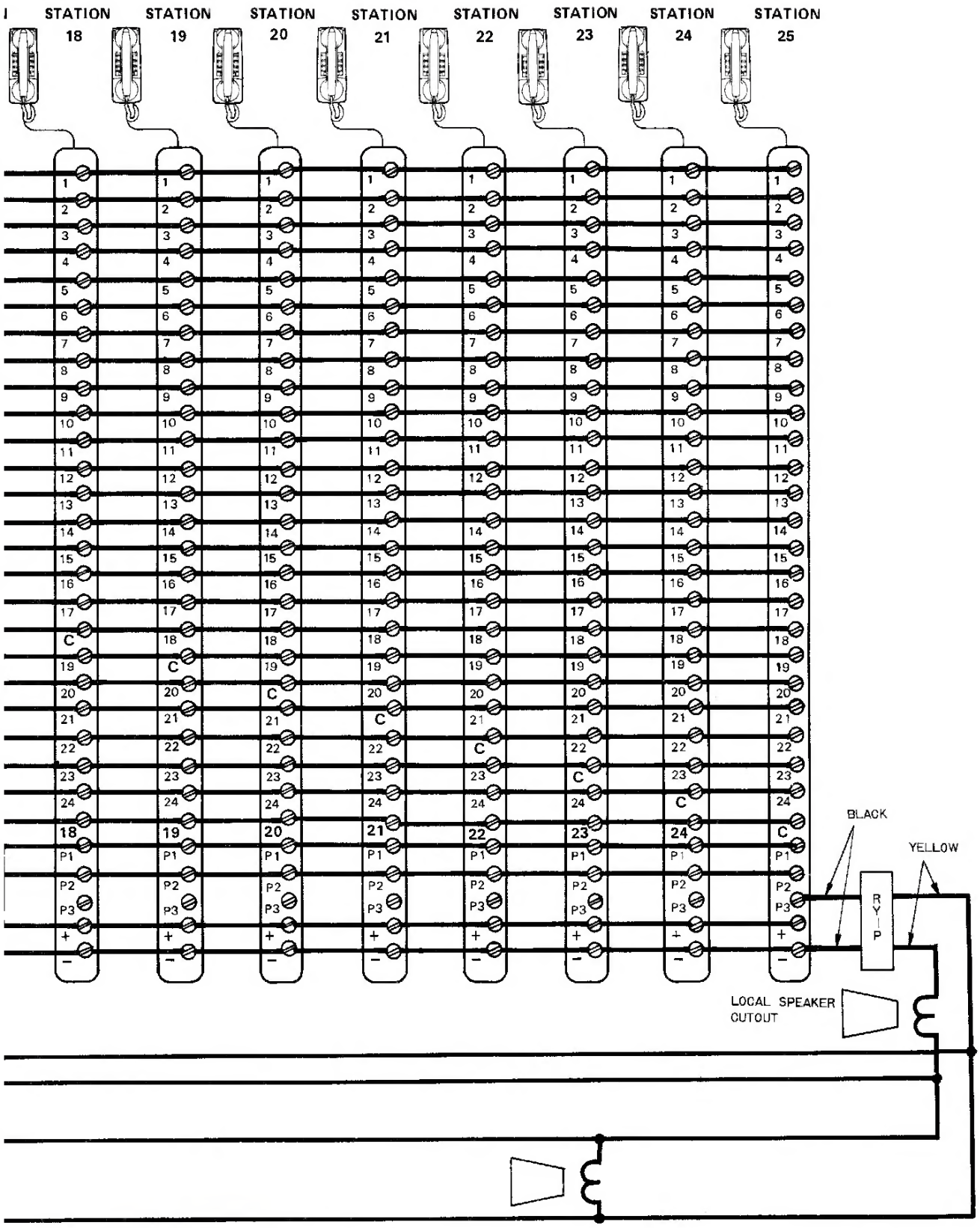
TOR

G ADAPTOR PG–U



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PAGING THRU EXISTING PAGING OR MUSIC SYSTEMS

To operate properly with the PG–U adaptor the existing amplifier and background music source should meet the following requirements:

Amplifier Input Requirements

Aux:	100K – 500K Ω ; 0.12V – 0.5V
Phono:	100K – 500K Ω ; 0.12V – 0.5V
Microphone:	DO NOT USE Microphone Input

Tuner Output Requirements

Use audio output.
Range: 100MV – 1.2V; 10K Ω or less

Tape Output Requirements

Use low level output.
Range: 100MV – 1.0V; 600 Ω

FIELD INSTALLATION OF NOISE CANCELLING HANDSET MODEL NCH-1

For extremely noisy areas, Aiphone has developed a special handset which allows excellent communication from a phone in a noisy area to other phones in the communications system. Designed to work with Aiphone Model TA-H, this handset contains an amplifier for communication and noise cancelling mouthpiece.

TO INSTALL

(a) Remove two screws on bottom of phone as shown, using a Phillips screw driver. (fig. 1)

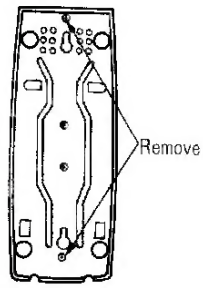
(b) Carefully lift the plastic case from the base.

(c) Lift hook anchoring coil cord to metal base. (fig. 2)

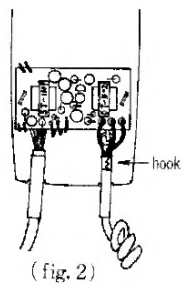
(d) Carefully remove red, white and black wires from printed circuit board using soldering iron.
Remove old handset, and retain for spare parts.

(e) Attach red, white and black wires from noise cancelling handset coil cord with soldering iron as shown.
Be sure your wires are in the correct order. (fig. 3)

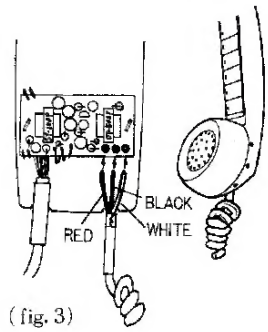
(f) Bend hook back, (Note (c)), replace plastic case (Note (b)), and screws (Note (a)).



(fig. 1)



(fig. 2)



(fig. 3)

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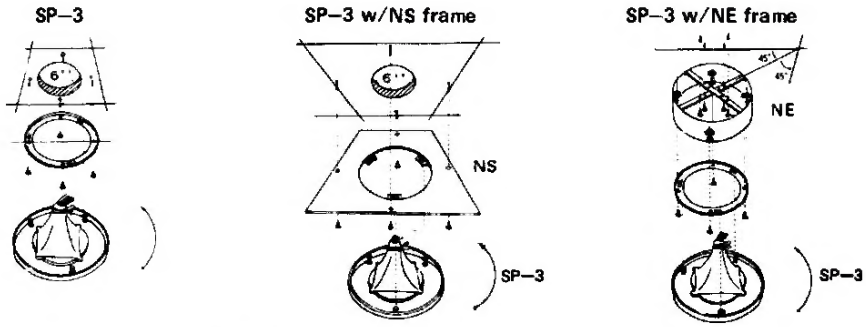
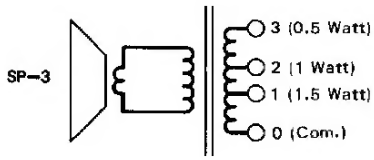
INSTALLING PAGING SPEAKERS

1) For ceiling or wall mounting cut hole according to type of speaker chosen.
2) Install mounting hardware with screws provided. For mounting on conctete or other hard surface use suitable anchors for attaching mounting frame.
3) A single pair of wires to paging amplifier.
4) Attach speaker to mounting frame by inserting studs into slots of mounting frame, aligning red artow on baffle with red screw and turning baffle counterclockwise until properly locked.



Note: Aiphone SP–3 comes complete with baffle and mounted transformer.

ACTUAL TRANSFORMER TERMINAL LOCATION ON SP–3.



Wire paging speakets referring to the table shown below. Total output of speakers must not be more than the rated output of the paging amplifier used.

	RATED TRANS-FORMER OUTPUT	TERMINAL CONNECTION	SPEAKER OUTPUT 70.7 V LINE
SP–3	1½ watts @ 70.7 V LINE	0 – 3 (10 K ohms)	0.5 watt
		0 – 2 (5 K ohms)	1 watt
		0 – 1 (3.3 K ohms)	1.5 watt

PAGING WIRING REQUIREMENTS:

a) 4 wires between PG-U adaptor and TA-H stations.
b) 4 common wires plus number of installed stations between TA-H stations.
c) A single pair of wires between PG-U adaptor and paging amplifier.
d) A single pair of wires between paging amplifier and paging speakers.

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TALKBACK PAGING AND BLOCK PAGING USING ADAPTOR PA–B

1) Up to 10 block or talkback paging areas may be installed with a system.

   For complete and comprehensive installation information see instructions packed with PA–B.

2) Amplifier with 70V line output must be used with adaptor PA–B.

3) One potential phone must be deducted for each PA–B installed. (If all call is required one additional potential phone must be deducted.

   Example #1 shows 3 areas of talkback paging and all call. Selector button #9 on each phone operates block #1. Button #12 is used for calling all 3 blocks simultaneously.

   Example #2 illustrates single talkback paging circuit.

   Example #3 illustrates connection if block paging is desired but without talkback. One amplifier, one PA–B and one PG–U per block is still required even though talkback is not required.

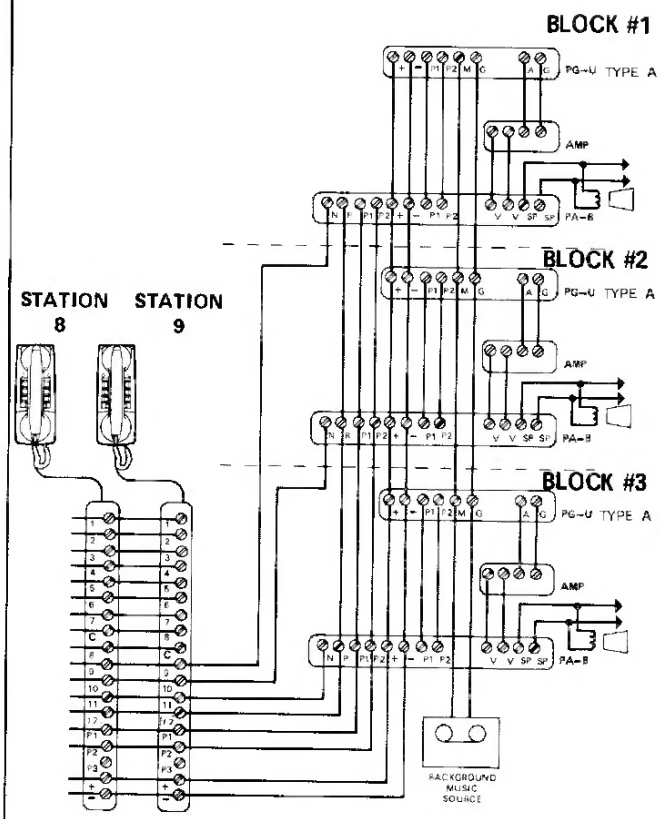
4) Individual block or area paging with or without talkback is available with this system.

5) You may page one area, any number of areas, or all areas by deprssing the appropriate selector button, then the page button. Make your announcement, then release page button to listen for reply.

6) One PG-U, one PA-B and one paging amplifier is required for each area.

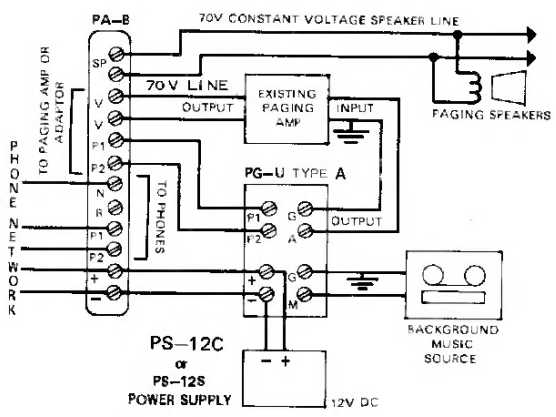
7) THIS IS A MULTI-CHANNEL SYSTEM BETWEEN TELEPHONE MASTER STATIONS; HOWEVER, THE BLOCK PAGING CIRCUITS ARE COMMON TALK MEANING ONLY ONE MASTER MAY PAGE AT A TIME.

EXAMPLE #1



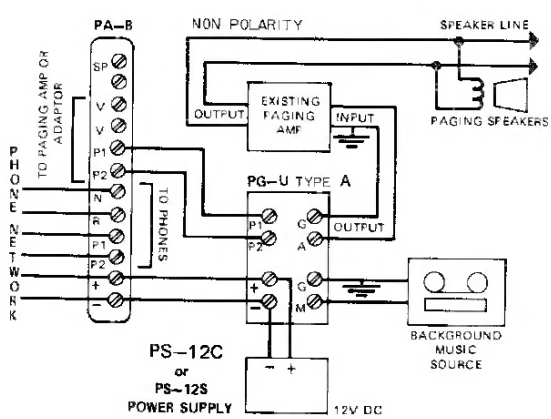
EXAMPLE #2

BLOCK AND TALKBACK PAGING CIRCUIT



EXAMPLE #3

BLOCK PAGING CIRCUIT (NO TALKBACK)



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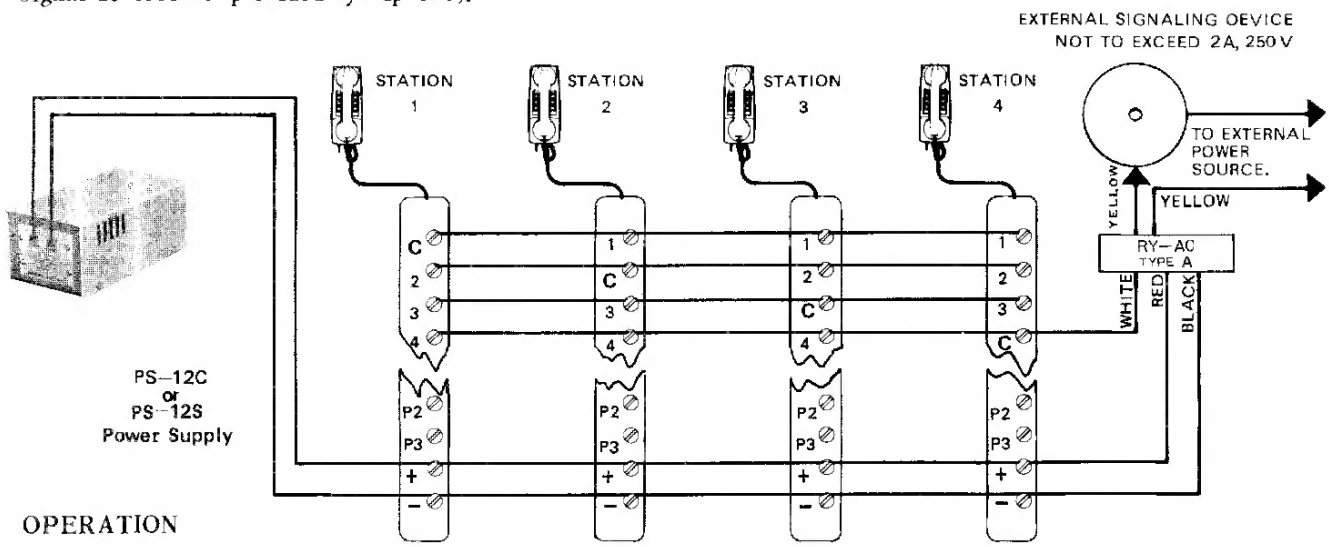
INSTALLING EXTERNAL SIGNALING DEVICE RELAY

Example shows station 4 with relay RY-AC which switches an external light, bell, horn or buzzer (external signal devices not provided by Aiphone).



OPERATION

* Calling:
  Pick up the handset and depress the selector button of desired station, then momentarily depress call button.
* Receiving:
  An incoming call is announced by an electronic tone. Pick up the handset and begin speaking.

PAGING OPERATION

* Pick up the handset and make announcement by pushing and holding the paging button. Background music will automatically cut out during paging operation. For block paging or talkback paging depress station selector button, then press and hold paging button. For paging talkback release paging button.

CLEANING YOUR INTERCOM STATIONS

* Your Aiphone intercom stations may be cleaned with a soft cloth dampened with household cleanser, such as Mr. Clean or Fantastik.

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We at AIPHONE are proud of our products. Our designers and engineers strive to bring you the finest in communication equipment. Each item has been carefully tested and inspected before leaving our factory. Properly installed and used, your Aiphone intercom system should give years of trouble-free service.

We are pleased to offer the following warranty:

WARRANTY

Aiphone warrants its products to be free from defects of material and workmanship under normal use and service for a period of one year after delivery to the ultimate user and will repair free of charge or replace at no charge, should it become defective upon which examination shall disclose to be defective and under warranty. Aiphone reserves unto itself the sole right to make the final decision whether there is a defect in materials and/or workmanship; and whether or not the product is within the warranty.

This warranty shall not apply to any Aiphone product which has been subject to misuse, neglect, accident, or to use in violation of instructions furnished, nor extended to units which have been repaired or altered outside of the factory.

This warranty does not cover batteries or damage caused by batteries used in connection with the product.

This warranty covers bench repairs only, and any repairs must be made at the shop or place designated in writing by Aiphone. Aiphone will not be responsible for any costs incurred involving on site service calls.

Aiphone Co., Ltd., Nagoya, Japan
Aiphone U.S.A., Inc., Bellevue, Washington

ALL OVER THE WORLD **AIPHONE**

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